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EXAMINER

BOWERS, NATHAN ANDREW

ART UNIT PAPER NUMBER

1744

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/715,127	<b>Applicant(s)</b> YOKOI ET AL.	
	<b>Examiner</b> Nathan A. Bowers	<b>Art Unit</b> 1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is believed that the newly added limitation “wherein air is introduced from outside the chamber into the motor case and discharged from inside the motor case to outside the chamber to circulate through the interior space of the motor case” is not described in the specification. Applicant has not pointed out where the added limitations of the amended claim are supported. Figures 8 and 15 disclose a motor (581) and a motor case (582) comprising an air inlet (588) and outlet (589). This is supported in paragraphs [0097] and [0120]-[0123]. However, there does not seem to be any teachings that indicate that air is introduced from *outside the chamber* into the motor case. These paragraphs only state that air is introduced to the motor case from outside the motor case, and are silent with regard to the relationship with the chamber.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

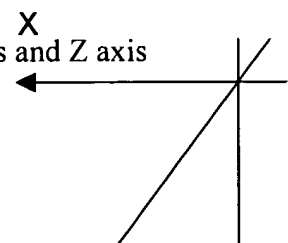
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1) Claims 1, 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Schlecker (US 5456562).

With respect to claim 1, Schlecker discloses a storage apparatus for storing containers inside a chamber adjusted to predetermined ambient conditions. A container transport device (Figure 3:64) is disposed inside the chamber in such a way that the transport device is centrally located between container accommodating racks (Figure 3:10 and Figure 3:12) arranged on opposite sides. The transport device comprises a transport table (Figure 3:70) for placing the container thereon, and a drive mechanism comprising a plurality of motors designed to move the transport table in the X, Y and Z directions. This is disclosed in column 6, line 9 to column 7, line 11. Figure 4 clearly indicates that container accommodating portions (Figure 4:20) are arranged along the Z axis at all times, and Figure 5 clearly indicates that container accommodating portions are arranged along the Y axis at all times.

With respect to claim 5, Schlecker discloses the storage apparatus in claim 1, wherein the chamber has a container inlet (Figure 3:25) for transporting the container into the chamber. The container inlet is operably connected to a carriage mechanism (Figure 3:34) for moving the containers inside the chamber. This is apparent from Figure 3 and from column 5, lines 17-53.

With respect to claim 8, Schlecker discloses the storage apparatus in claim 1 wherein a drive mechanism for moving the container transport table in the direction of the X axis is provided. This is disclosed in column 6, line 51 to column 7, lines 10. Y axis and Z axis



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transport assemblies are also provided for moving the transport table vertically and horizontally in an effort to align containers with a corresponding accommodating portion. Schlecker additionally discloses in column 6, lines 9-17 that the reciprocating movable body has a lower end portion and an upper end portion engaged respectively with a lower guide rail (Figure 4:66) and an upper guide rail (Figure 4:67) which extend in the direction of the Y axis.

2) Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Bradley (US 6377867).

Bradley discloses a storage apparatus for storing containers (Figure 3:18) inside a chamber adjusted to predetermined ambient conditions. A container transport device (Figure 3:35) is disposed inside the chamber in such a way that the transport device is centrally located between container accommodating racks (Figure 3:31 and Figure 3:32) arranged on opposite sides. The transport device comprises a transport table (Figure 3:37) for placing the container thereon, and a drive mechanism comprising a plurality of motors designed to move the transport table in the X, Y and Z directions. This is disclosed in column 2, line 31 to column 3, line 19 and in column 5, line 39 to column 6, line 11. Figure 3 clearly indicates that container accommodating portions are arranged along the Z axis at all times, and Figure 2 clearly indicates that container accommodating portions are arranged along the Y axis at all times.

3) Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Bradley (US 6377867) as evidenced by Yahiro (US 6228636).

With respect to claim 10, Bradley discloses the apparatus in claim 1 wherein the container transport device has its operation controlled by a drive control device. This is taught in column 6, lines 5-8. It is believed that movement of the transport table in the Y and Z directions inherently works to circulate air inside the chamber. The Yahiro (US 6228636) reference indicates that it is known in the art that moving platform elements within a storage chamber works to circulate air. Although Yahiro is directed towards the movement of a shelf rather than a transport table, it is believed that the movement of a shelf and the movement of a platform element will inherently produce similar results.

4) Claims 1, 3, 5 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kavieff (US 4883401).

With respect to claim 1, Kavieff discloses a storage apparatus for storing containers (Figure 2:21) inside a chamber adjusted to predetermined ambient conditions. A container transport device (Figure 3:24) is disposed inside the chamber in such a way that the transport device is centrally located between container accommodating racks (Figure 2:10 and Figure 2:12) arranged on opposite sides. The transport device comprises a transport table (Figure 3:25) for placing the container thereon, and a drive mechanism comprising a plurality of motors designed to move the transport table in the X, Y and Z directions. This is disclosed in column 3, lines 16-52. Figure 2 clearly indicates that container accommodating portions (Figure 2:20) are arranged along the Z axis at all times, and Figure 3 clearly indicates that container accommodating portions are arranged along the Y axis at all times.

With respect to claim 3, Kavieff discloses the apparatus in claim 1 wherein the container accommodating racks comprise a plurality of stackers (Figure 3:18) arranged in the direction of the Y axis. Each of the stackers comprises container accommodating portions repeatedly provided in the direction of the Z axis.

With respect to claim 5, Kavieff discloses the storage apparatus in claim 1, wherein the chamber has a container inlet for transporting the container into the chamber. The container inlet is operably connected to a carriage mechanism (Figure 2:34) for moving the containers inside the chamber. This is apparent from Figures 2 and 3 and from column 3, line 53 to column 4, line 11.

With respect to claims 18-20, Kavieff discloses the apparatus in claim 1 wherein each of the containers is provided with identification information for identifying the container. The storage apparatus further comprises a body, a storage means for storing identification information, a means for reading identification information, information processing means, and a control means for controlling the operation of the apparatus body with reference to the identification information stored in the storage means. This is disclosed in column 4, line 31 to column 5, line 49 (especially column 5, lines 40-49).

5) Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Kavieff (US 4883401) as evidenced by Yahiro (US 6228636).

With respect to claim 10, Kavieff discloses the apparatus in claim 1 wherein the container transport device has its operation controlled by a drive control device. This is taught in column 3, lines 47-52. It is believed that movement of the transport table in the Y and Z directions inherently works to circulate air inside the chamber. The Yahiro (US 6228636) reference

indicates that it is known in the art that moving platform elements within a storage chamber works to circulate air. Although Yahiro is directed towards the movement of a shelf rather than a transport table, it is believed that the movement of a shelf and the movement of a platform element will inherently produce similar results

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6) Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaviëff (US 4883401) as applied to claim 1, and further in view of Goffe (US 5882918).

Kaviëff discloses the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 102 rejection above, however does not expressly disclose a gas outlet for discharging a gas for adjusting the inside of the chamber to predetermined ambient conditions.

Goffe discloses an incubator storage apparatus for storing samples inside a chamber (Figure 1:4) adjusted to predetermined ambient conditions. The chamber is provided with centrally arranged gas outlets (Figure 1:26) which face the central space of the chamber. Column 4, lines 47-60 indicate that air is allowed to flow through the outlets to an additional section of the apparatus where it is either treated and returned to the incubation chamber, or simply expelled from the system.

Kavieff and Goffe are analogous art because they are from the same field of endeavor regarding storage systems.

At the time of the invention, it would have been obvious to add a centrally arranged gas outlet port between the container accommodating racks in the invention disclosed by Kavieff. This would have allowed one to achieve better air circulation throughout the incubator chamber, which is important because air circulation generally helps to keep environmental conditions uniform throughout the entirety of the system. Centrally arranged air outlets are also beneficial, according to Goffe, because they can be used to extract air from the chamber, where it can be treated and returned or removed completely from the incubator. This process is advantageous because it can be used to maintain certain parameters such as temperature and humidity at a desired level in an effort to maintain containers in the best possible environmental conditions.

7) Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kavieff (US 4883401) as applied to claim 3, and further in view of Yahiro (US 6228636) and Gonska (US 6568770).

Kavieff discloses the apparatus set forth in claim 3 as set forth in the 35 U.S.C. 102 rejection above, however does not expressly disclose an opening in the chamber facing the direction of the Y-axis, or that the stackers are withdrawable through the opening along with the drawer upon which they are placed.

Yahiro discloses an incubator storage apparatus comprising a housing, a plurality of sample shelves, and an opening with a door facing the Y-axis. The plates are moved in an out of

the incubator through the door after and prior to incubation procedures. This is taught in column 1, lines 45-59 and in column 5, lines 1-18.

Gonska discloses an incubator storage apparatus comprising a transport device (Figure 2:3) and a storage means (Figure 2:9). The storage means comprises multiple stackers for arranging a plurality of containers along the Z-axis. The stackers are positioned upon a drawer (Figure 5:11) installed within the base of the incubator. Gonska discloses a door (Figure 1:8) for the assembly through which stackers are removed. This is disclosed in column 3, lines 52-55.

Kavieff, Yahiro and Gonska are analogous art because they are from the same field of endeavor regarding storage incubators.

At the time of the invention, it would have been obvious to provide an opening with a door facing the direction of the Y-axis in the invention disclosed by Kavieff for facilitating the removal of the stackers. By mounting the stackers on a slidable base, the stackers may be easily removed from the device, which in turn reduces the amount of time that the interior of the incubator is exposed to the outside environment. Since the stackers are usually removed for maintenance purposes, it would have been beneficial to supply Helwig's invention with the means necessary to quickly undertake cleaning and upkeep procedures without interfering with the normal operation of the incubator.

8) Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kavieff (US 4883401) as applied to claims 1 and 5, and further in view of Yahiro (US 6228636).

With respect to claim 6, Kavieff discloses the apparatus set forth in claim 5 as set forth in the 35 U.S.C. 102 rejection above, however does not expressly disclose a shutter mechanism for opening and closing the container inlet.

Yahiro discloses the incubator as described in the rejection above. Yahiro also discloses an inlet (Figure 1:202) for transporting the container into the chamber. In column 2, line 53 to column 3, line 2, Yashiro teaches that the inlet comprises a shutter mechanism (Figure 1:5) for opening and closing the container inlet.

At the time of the invention, it would have been obvious to replace Kavieff's inlet mechanism with Yahiro's shutter mechanism since the shutters are capable of effectively blocking container inlets when not in use. This type of restricted access way would have been desirable because it would have prohibited contaminants from entering the storage chamber during operation. Yahiro teaches in column 1, lines 30-35 that unless a shutter is provided, the gaseous atmosphere inside the storage area will flow out of the chamber, and the air will flow into the chamber, thereby drastically altering the temperature and humidity inside. This is critical since many types of storage articles are sensitive to environmental changes.

9) Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kavieff (US 4883401) as applied to claim 5, and further in view of Khan (US 3618734).

Kavieff discloses the apparatus set forth in claim 5 as set forth in the 35 U.S.C. 102 rejection above, however does not expressly disclose an air curtain mechanism for producing an air stream curtain for the container inlet.

Khan discloses a storage apparatus for storing samples on containers inside a chamber adjusted to predetermined ambient conditions. A plurality of vertically placed shelves (Figure 2:34) are mounted within the storage apparatus and may be designed to hold a plurality of samples and permit airflow through the chamber. This is disclosed in column 2, lines 5-56. Column 3, lines 1-50 indicate that the chamber is provided with an air curtain mechanism for producing an air stream curtain for the container inlet.

Kavieff and Khan are analogous art because they are from the same field of endeavor regarding incubator systems.

At the time of the invention, it would have been obvious to incorporate an air curtain mechanism in the apparatus disclosed by Kavieff. The creation of an air stream curtain across the container inlet when the chamber is opened would have prevented entry of outside air into the incubator. Khan teaches in column 3, lines 1-7 that such a device is beneficial because it allows the interior of the chamber to be maintained at a uniform and proper temperature by avoiding the free exchange of gases in and out of the incubator. This is critical in many storage procedures since many articles are sensitive to changes in the immediate environment.

10) Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kavieff (US 4883401) as applied to claim 1, and further in view of Helwig (US 6129428) and Kremerman (US 20040001750).

Kavieff discloses the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 102 rejection above. Helwig shows in Figure 7 that the drive mechanism (Figure 7:11) of the container transport device uses a belt drive mechanism to turn the transport table to facilitate

movement in the Y direction. Helwig, however, does not disclose that the belt drive mechanism is made of stainless steel.

Helwig discloses a storage apparatus for moving containers (Figure 1:8) to appropriate accommodating portions (Figure 3:7) through the use of a container transport device (Figure 2:11). Helwig shows in Figure 7 that the drive mechanism (Figure 7:11) of the container transport device uses a belt drive mechanism to turn the transport table to facilitate movement in the Y direction.

Kremerman discloses a robotic arm that utilizes a belt drive mechanism to produce three-dimensional motion for moving semiconductor wafers along the direction of the X-axis, Y-axis and Z-axis. This is disclosed in paragraphs [0012], [0013], [0135] and [0136]. Paragraph [0158] teaches that the belt drive mechanism is made from stainless steel.

Kavieff, Helwig, and Kremerman are analogous art because they are from the same field of endeavor regarding laboratory scale material transport devices.

At the time of the invention, it would have been obvious to utilize a stainless steel belt drive mechanism in the container transport device disclosed by Kavieff. Helwig indicates that belt drive systems are well known in the art, and are capable of accurately and precisely moving a transport device to a desired location. Stainless steel materials are well known in the art to be durable, dependable and corrosion resistant. Kremerman teaches in paragraph [0158] that stainless steel belt drive mechanisms generate fewer particles during use. This is important in incubation storage systems since biological procedures must be protected against contamination.

11) Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) in view of Kapka (US 5635398) and the English translation of Yoshinaga (JP 405276711).

Helwig discloses a storage apparatus for storing samples on containers (Figure 2:8) inside a chamber (Figure 2:2) adjusted to predetermined ambient conditions. Column 2, lines 46-59 teach that the storage apparatus is used for incubating cell cultures and microorganisms without disturbing conditions within the apparatus during loading and unloading. According to column 5, line 24 to column 6, line 32, a container transport device (Figure 2:11) is disposed inside the chamber, and is capable of moving containers to a rack (Figure 2:7) comprising a plurality of container accommodating portions. Multiple drive motors (Figure 2:17, 18, 19) are provided for supplying power to the container transport device. The drive motors are positioned within the chamber and together with the main body portion of the container transport device. In addition, Helwig teaches that the motors (Figure 2:17,18, 19) serving as the power source for the container transport device are accommodated in motor cases that are separated from the incubator chamber. This is illustrated in Figure 2. Helwig, however, does not expressly state that air admitting and venting hoses are introduced into the motor cases to circulate air through the interior space of the motor cases. Helwig does not expressly indicate that air is introduced from outside the chamber into the motor case and discharged from inside the motor case to outside the chamber.

Kapka discloses an incubator (Figure 4:39) for containing a plurality of sample containers (Figure 1:15). The containers are rotated by a transport device (Figure 1:1) that is driven by a motor residing in a motor case (Figure 1:17). This is disclosed in column 1, lines 42-60, column

2, lines 47-65 and column 3, lines 41-54. Column 3, lines 14-25 indicate that air is circulated throughout the motor case and across the motor in order to prevent the accumulation of condensation. Although Kapka does not expressly disclose the use of tubes to introduce the circulating air to the motor case, the utilization of tubes to carry an airflow is well known in the art and is simply a design choice.

Yoshinaga discloses a schematic for circulating air over a motor to promote cooling. Yoshinaga indicates in paragraphs [0001], [0002] and [0012]-[0017] that it is known to transport air through a motor case (25) by moving it from a remote blower (23) to a motor (25).

Helwig and Kapka are analogous art because they are from the same field of endeavor regarding the use of motorized container transport devices in incubators.

Helwig and Yoshinaga are analogous art because they are from the same field of endeavor regarding motor air delivery mechanisms.

At the time of the invention, it would have been obvious to blow air across the motors residing in the motor cases of the invention disclosed by Helwig in order to cool the motors during use and prevent the accumulation of condensation. Kapka teaches that condensation is a common problem for motors residing within incubators, and that steps must be taken in order to ensure that the motors are capable of operating efficiently in an undesirable environment. Placing the motors in a separated casing would have helped isolate the motors from adverse temperatures and humidity. Blowing air across the motor would have pneumatically forced any accumulated condensation into the air vent exit and away from the motor. It would have been obvious to transport the air stream to and from the motor case using tubing if one was unable to directly install a fan in close proximity to the motor.

It furthermore would have been obvious to introduce air from outside the chamber into the motor case and discharge air from inside the motor case to outside the chamber to circulate air through the interior space of the motor case. This would have been beneficial because it would have allowed one to transport fresh, cool air directly to the motor, rather than recycling air that has grown warm from exposure to the interior of the incubator. Yoshinaga indicates that it is known in the art to transport air to overheating motors from a remote air source using various conduits and inlets.

12) Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Helwig (US 6129428) in view of Kapka (US 5635398) and Yoshinaga (JP 405276711) as applied to claim 11, and further in view of Blair (US 3445743).

Helwig , Kapka, and Yoshinaga disclose the apparatus set forth in claim 11 as set forth in the 35 U.S.C. 103 rejection above. Helwig states that the container transport device motors are controlled by a controller, however does not expressly state that the controller feeds the motors with a revolution number zero control signal and drive current when incubation procedures are brought out of operation in order to discourage the formation of water condensation on the motors.

Blair discloses a motor (Figure 1:10) that is controlled by a controller (Figure 1:11) which sends a small current to the electrical input leads of the motor after the motor has been turned off. This small current is capable of keeping the interior of the motor at an elevated temperature in order to avoid the problem of condensation. This is disclosed in column 1, line

48 to column 2, line 9. Column 1, lines 24-40 indicate that the disclosed motor system is intended to be used in high humidity environments.

Kapka discloses in column 3, lines 14-25 that the accumulation of condensation on motors is a problem associated with many incubation chambers that utilize automated container transport mechanisms.

Helwig, Kapka, Yoshinaga, and Blair are analogous art because they are from the same field of endeavor regarding the use of motors in high humidity environments.

At the time of the invention, it would have been obvious to utilize the motor heating process disclosed by Blair in the incubator apparatus disclosed by Helwig. Blair teaches in column 1, lines 24-40 that motors, when used in high humidity environments, tend to promote condensation when turned off. This moisture can be very harmful to the motor windings, and can be avoided by constantly sending a small current to the motor even when the motor is not in operation (a revolution number zero control signal and drive current). Kapka indicates in column 3, lines 14-25 that, since the accumulation of excess condensation is a problem in cell culturing devices, Blair's motor heating system would prove beneficial in incubation procedures, like Helwig's, that rely on motors to move components of the incubator during processing.

13) Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kavieff (US 4883401) as applied to claim 1, and further in view of Weselak (US 20030031602).

Kavieff discloses the apparatus set forth in claim 1 as set forth in the 35 U.S.C. 102 rejection above. Column 4, line 31 to column 5, line 49 indicate that the apparatus utilizes identification information and a means for reading the identification information as a method for

tracking samples that are disposed within the invention. A mechanism of tracking and storing identification information is provided within the incubator apparatus, as well as a control means for controlling the operation of the apparatus body with reference to the identification information stored in the storage means. Kavieff, however, states that the identification information is used to track the movement of the containers, rather than stackers.

Weselak discloses an incubator storage apparatus that comprises a plurality of shelves (Figure 1:104) that are arranged vertically as stackers. Figure 3 illustrates how the shelves may be positioned adjacent to openings (Figure 3:302) to facilitate the storage of containers within the incubator. Weselak discloses in paragraphs [0016]-[0018] that the shelves contain identification information that allows the user to consistently keep track of shelf location and what samples containers are located on a specified shelf.

Kavieff and Weselak are analogous art because they are from the same field of endeavor regarding incubator storage apparatuses that provide automatic sample handling.

At the time of the invention, it would have been obvious to provide each of the stackers disclosed by Kavieff with identification information. This would have allowed one to track the movements of the stackers in and out of the incubators in order to keep track of the contents of each stacker. Weselak teaches that it is common practice to remove stackers from an incubator, and subsequently replace the old stacker with a new one. Since the stackers carry the material that is being incubated within the containers, it would have been important to know at any given time where a desired stacker is located (what incubator it is in). Kavieff teaches that the identification information is in the form of a barcode or a similar coded device, which intrinsically could be positioned upon the stackers, as well as the containers.

14) Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kavieff (US 4883401) in view of Weselak (US 20030031602) as applied to claim 15, and further in view of Barbera-Guillem (US 6673595).

15) Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kavieff (US 4883401) as applied to claim 18, and further in view of Barbera-Guillem (US 6673595).

Kavieff and Weselak disclose the apparatuses set forth in claims 17 and 21 as set forth in the 35 U.S.C. 102 and 103 rejections above, however Kavieff and Weselak do not expressly disclose that the apparatus body has an information display device or that the information processing means stores maintenance management information.

Barbera-Guillem discloses a storage apparatus comprising an apparatus body (Figure 1:10) for storing samples on containers (Figure 2:22) inside a chamber adjusted to predetermined ambient conditions. This is taught in column 3, lines 9-67 and column 7, lines 48-65. Column 6, lines 2-28 indicate that each of the containers is provided with identification information, and a means for reading the identification information. Column 19, line 66 to column 20, line 60 teaches that a mechanism of tracking and storing identification information is provided within the incubator apparatus. Barbera-Guillem additionally teaches that the apparatus body has an information display device (Figure 1:94). Column 19, line 66 to column 20, line 60 and column 22, line 40 to column 23, line 11 indicate that identification information is used to control the normal functioning of incubator operations. If placed on the stackers, the identification information would intrinsically be used to control incubator operations based on the whereabouts of the stackers. The control means would be operable to monitor the maintenance time for a plurality of stackers, and operate the incubator accordingly. Barbera-Guillem teaches that

information derived from the identification code reader and/or position sensors is displayed on the display device. This information inherently could include maintenance times representing the status of a stacker as it is being loaded and unloaded from the incubator storage device.

Kavieff, Weselak, and Barbera-Guillem are analogous art because they are from the same field of endeavor regarding incubator storage apparatuses that provide automatic sample handling.

At the time of the invention, it would have been obvious to equip Kavieff's apparatus with an information display device capable of displaying data regarding the position of various containers and stackers within the storage chamber. Furthermore, it would have been obvious to utilize the identification and memory mechanisms disclosed by Kavieff, Weselak, and Barbera-Guillem to manage stacker maintenance procedures and to keep track of containers as they are moved off and on various shelves. This would have been beneficial because it would have reduced the time and labor associated with maintaining the storage apparatus and controlling its operation.

### ***Response to Arguments***

Applicant's arguments, see pages 10-12, filed 07 June 2006, with respect to the 35 U.S.C. 102 rejection of claim 1 involving Helwig have been fully considered and are persuasive. This rejection of claim 1 has been withdrawn. However, upon further consideration, multiple new ground(s) of rejection are made in view of the Schlecker, Bradley and Kavieff references.

As indicated in the detailed descriptions of Schlecker, Bradley and Kavieff, it is believed that these references disclose all of the limitations set forth in claim 1. Schlecker, Bradley and

Kavieff each indicate that the container accommodating portions are arranged at all times solely along one plane defined by the Y axis and the Z axis.

Applicant's arguments, see page 15, filed 07 June 2006, with respect to the 35 U.S.C. 103 rejection of claim 12 involving Helwig in view of Kapka have been fully considered and are persuasive. This rejection of claim 12 has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the combination of Helwig, Kapka, and the English translation of Yoshinaga.

Helwig and Kapka disclose the apparatus as described in the previous Office Action. The addition of Yoshinaga addresses the deficiencies of the combination by teaching that it is known in the art to move cooling air through a motor case from a remote air source. In light of Yoshinaga, it would have been obvious to introduce air from outside the storage chamber to the motor case. This would have been beneficial because it would have allowed one to transport fresh, cool air directly to the motor, rather than recycling air that has grown warm from exposure to the interior of the incubator.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan A. Bowers whose telephone number is (571) 272-8613. The examiner can normally be reached on Monday-Friday 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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